Warfighting – Week 7

THE ESTIMATE PROCESS
FACULTY SPOOL GUIDE

1. Overview

This class is designed to provide an early introduction to a mental framework that identifies METT-TSL factors (mission, enemy, terrain and weather, troops and fire support available—time, space and logistics) to consider in formulating a decision. It is structured around two different methodologies over a two-hour period:

a. A seminar discussion (requirement 1) to examine the importance of developing a mental framework that will lead a decision maker to thoroughly examine the situation. The students have plenty to read prior to this discussion. *Infantry in Battle* is considered supplemental, not required, reading ; however, many great historical examples of the importance of developing a good estimate can be found in this book. Encourage your students to get familiar with this reference publication.

b. A practical exercise (Requirement 2) that requires the student to develop an estimate for a given scenario.

2. What's In a Name?

The title of this course is confusing. What we are really talking about is the "estimate of the situation.," METT-TSL. Some of the literature consider the entire command and control process the "estimate of the situation," while other sources consider METT-TSL to be a subset of the estimate of the situation. Try to focus the students at once—we are not talking about developing and comparing courses of action. Instead, we want to focus on analyzing the situation and show how that relates to decision-making. This exercise should not turn into a big debate over what to name what we are talking about: the factors of METT-TSL in the "estimate of the situation."

Requirement 1

Overview

This requirement is conducted as a seminar discussion. There are only six questions. **Don't spend more than 40 minutes to conduct the discussion**. Don't worry about coming to grips with all these issues. Get the students thinking about why they are conducting an estimate of the situation. The other requirement is more practical.

a. What purpose does the estimate process serve? Is it a decision-making process?

i. The first part of the question may create confusion based on the various readings. This class is really directed at the estimate of the situation, or METT-TSL. Try to establish this point right now.

(a) The estimate of the situation helps the leader determine his mission, understand his situation, and select a feasible course of action that will accomplish his assigned responsibilities. The true purpose of the estimate of the situation is to provide a framework that will assist in a logical and thorough examination of all factors affecting the mission.

(b) Since every situation in war is unique, memorizing an assortment of standard solutions is useless. Thus, it is necessary to examine each situation on its own merits. The estimate process involves reason and judgment; it is not a mechanical process. It is a tool to help organize information and arrange knowledge in a manner that matches the structure and dynamics of the battlefield.

(c) Every tactical action results from the intention to change a given situation to the detriment of the enemy. Preparations for the planned tactical action must therefore include an estimate of the existing situation and its possible development with respect to friendly and enemy forces. An estimate of the situation, taking into account all facts and possibilities, is a necessity. The best way to make an estimate of the situation is in a sequence of ideas. When we follow a sequence of ideas, omissions are unlikely.

ii. The second part of the question asks if the estimate is a decision-making process. The aiming point for this question is to get the officer to think about *how* and *where* the estimate of the situation fits into the decision-making process. If the initial question does not lead the discussion in that direction, please redirect it that way.

(a) The estimate is a tool that helps organize information. The decision requires a synthesis (creation of a whole out of parts; the combination of separate elements of thought into a whole) of all factors that might impact on the battle. The variety and complexity of war produce unique situations that require creative solutions. While the estimate itself is not the decision, by considering each factor of METT-TSL we can develop a reasonable estimate that can be used as the basis for making tactical decisions.

(b) Every decision is based on a number of given facts that are more or less clearly defined. The decision represents the culmination of a series of thoughts that the mind has turned over for longer or shorter periods of time. Again, the decision may be born in a split second. The decision always reflects the will of the commander.

b. Based on the assigned readings and your own personal experience, do you feel that METT-TSL is a valid tool for analyzing the situation in the estimate process? If yes, for what purpose? If no, why not? If not, is there something else that will help us to reach an effective decision? (*Infantry in Battle,* page 7, example 3, offers a great example of how a good estimate allows a commander to "think out of the box.")

i. The key is to get the students to think about *how* they will make an estimate of the situation. The conclusion to question number one above should be that the estimate of the situation is the key to making an effective decision; thus, how we conduct the estimate should be very important. The emphasis should be that METT-TSL is a tool and that simply filling in the blanks next to each of the letters of METT-TSL will be of only limited use in arriving at a decision. The mental estimate process requires knowledge, imagination, creativity, and insight. The use of METT-TSL establishes a reference point that is common to all situations.

ii. General Victor Louis Emilien Cordonnier, a French corps commander in WWI, stated the following in *Infantry in Battle* (15): "The instruction given by leaders to their troops, by professors of military schools, by historical and tactical volumes, no matter how varied it may be, will never furnish a model that need only be reproduced in order to defeat the enemy…."

iii. Carl von Clausewitz in *On War* (140-142): "Given the nature of the subject, we must remind ourselves that it is simply not possible to construct a model for the art of war that can serve as a scaffolding on which the commander can rely for support at any time…. Even these principles and rules are intended to provide a thinking man with a frame of reference for the movements he has been trained to carry out, rather than to serve as a guide which at the moment of action lays down precisely the path he must take…. There are certain constant factors in any engagement that will affect it to some extent; we must allow for them in our use of armed forces. These factors are the locality or terrain, the time of day, and the weather."

iv. Some students may argue against the use of METT-TSL because it reflects a "checklist" mentality. If so, ask them how they make an estimate or on what they base their decisions. More than likely their answers will include statements such as, "I look at the enemy, my mission, the terrain, combat power, etc." Sooner or later they will describe the factors and elements of METT-TSL.

v. You can also refer back to some of the quotes provided for question one above. The bottom line is that if we did not have METT-TSL we would probably invent it.

c. Discuss the following statement: The factors of the analysis of the situation (METT-TSL) in the estimate process, and their various elements can only be understood in the context of the whole.

i. The thrust of this question is simply to make the students aware that every situation is unique, that the factors of METT-TSL must be analyzed with the focus on the particular situation at hand, and that the factors cannot be considered in isolation.

ii. *Infantry in Battle*, "Rules" (1): "The art of war has no traffic with rules, for the infinitely varied circumstances and conditions of combat never produce exactly the same situation twice. Mission, terrain, weather, dispositions, armament, morale, supply, and comparative strength are variables whose mutations always combine to form a new tactical pattern. Thus, in battle, each situation is unique and must be solved on its own merits."

iii. Again, no factor can really stand alone. Troops and fire support available can be correctly analyzed only when the terrain and the enemy are considered. The fact that you have a tank battalion may seem advantageous until you consider that your enemy is made up of irregular forces, the terrain is mountainous triple-canopy jungle, and the monsoon season begins today (weather). Roads that appear trafficable in good weather may not be trafficable in poor weather. Dismounted troops who are useful in close terrain may be of only limited value in wide open desert against a mechanized foe. An F-18 squadron may be of little use if your mission is to guard Haitian refugees in a temporary camp.

iv. Ask the students for some actual experiences or historical examples. There are plenty of examples in *Infantry in Battle*.

d. Our philosophy of warfighting demands quick, timely decisions. Will the use of METT-TSL in our analysis of the situation help us or hinder us in a time-competitive decision-making environment? (*Infantry in Battle*, p. 16, "Introduction;" p. 19, example 2A)

i. Do not spend too much time on this question. This question is a setup question for question five. If the discussion drifts to question five, do not worry about bringing it back but press on with relating the two questions.

ii. METT-TSL is only as useful as the experience and knowledge of the person making the estimate allow it to be. Some benefits of METT-TSL are as follows:

(a) METT-TSL helps troops to understand the commander's decision-making process; everyone knows what factors he considered and what type of information is needed to conduct an estimate and make a decision. METT-TSL may be useful in combat reporting.

(b) When the commander is faced with a difficult tactical situation (e.g., he is suffering from sleep deprivation, fear), he may avoid failure—or omissions—by following the steps in this process.

iii. The use of METT-TSL may slow down the decision-making process if an attempt is made to collect substantial information on each factor and build encyclopedic data to fill in all the gaps.

iv. There are two ideas that students should glean from this question:

(a) To paraphrase Dr. Jay Luvaas, "The book is, in many cases, only as good as the reader. Where an ass peers in, no genius stares back." In other words, METT-TSL is only as useful as the person using it to analyze, think, and exercise judgment.

(b) If during METT-TSL we try to weigh and consider every possible permutation, it will take us a long time to arrive at a decision. Therefore, we must limit our consideration to essential factors—the crux of the whole problem surrounding the estimate of the situation and the decision. This factor leads us to question 5.

e. When making our analysis of the situation, how do we limit our consideration to essential elements?

i. Below is a quote from MCDP 1 (p. 85) that relates this question to question 4:

"Decision making thus becomes a time-competitive process, and timeliness of decisions becomes essential to generating tempo. Timely decisions demand rapid thinking, with consideration limited to essential factors. We should spare no effort to accelerate our decision making ability."

ii. Clausewitz, *On War* (p. 101): "If we pursue the demands that war makes on those who practice it, we come to the region dominated by the powers of intellect. War is the realm of uncertainty; three quarters of the factors on which action is based are wrapped in a fog of greater or lesser uncertainty. A sensitive and discriminating judgment is called for; a skilled intelligence to scent out the truth."

iii. The first part of this question is both difficult and easy. The easy part first: Only experts in their profession will be capable of this kind of insight. Clausewitz again (p. 102): "War is the realm of chance. No other human activity gives it greater scope; no other has such incessant and varied dealings with this intruder. Chance makes everything more uncertain and interferes with the whole course of events…. If the mind is to emerge unscathed from this relentless struggle with the unforeseen, two qualities are indispensable; first, an intellect that, even in the darkest hour, retains some glimmerings of the inner light which leads to truth; and second, the courage to follow this light wherever it may lead. The first of these qualities is described by the French term *coup d'oeil*; the second is determination.… *Coup d'oeil* therefore refers not alone to the physical but more commonly to the inward eye…. Stripped of metaphor and of the restrictions imposed on it by the phrase, the concept merely refers to the quick recognition of a truth that the mind would ordinarily miss or would perceive only after long study and reflection."

iv. This quote from *Infantry in Battle* is a good summation: "It follows, then, that the leader who would become a competent tactician must first close his mind to the alluring formulae that well-meaning people offer in the name of victory. To master his difficult art he must learn to cut to the heart of the situation, recognize its decisive elements, and base his course of action on these. The ability to do this is not God-given, nor can it be acquired overnight; it is a process of years. He must realize that training in solving problems of all types, long practice in making clear, unequivocal decisions, the habit of concentrating on the question at hand, and an elasticity of mind, are indispensable requisites for the successful practice of the art of war."

v. We can now say that we recognize that we must limit our consideration to essential factors appropriate to the individual situation, and that developing this ability is the result of hard work, much study, and all the experience we can acquire. This is particularly difficult in the military. Although you may acquire much experience as a company grade officer in a conventional war, the next time you are called on to "cut to the heart of the situation, recognize its decisive elements" may be as a colonel in a humanitarian relief operation. Judgment, talent, intellect, thinking skills, and analytical skills all combine with experience to allow us the discern, illuminate, and clarify that which is hidden in the "fog of war."

*What methods can we use in peacetime to train and educate our decision makers to identify the decisive elements of the situation? (*Infantry in Battle*, p. 134, Example 5)*

vi. The quote from paragraph (d) above certainly applies.

vii. The specific methods will probably be many: the study of military history to build a knowledge base and discuss estimates and decisions made by others, terrain walks, war games, simulations, TEWTs, TDGs, staff rides, research, and so forth. A unifying framework that needs to run through all these events is as follows:

(a) Estimate the situation
(b) Make a decision based on the estimate
(c) Explain the decision and the estimate
(d) Critique or evaluate the estimate and the decision

f. What determines the value of the estimate?

i. The answer is straightforward: experience, knowledge, ability, time, and fatigue help determine the value of the estimate. The key point is that two people observing the same situation will arrive at different decisions because they will produce different estimates based on the items listed above. In other words, a good decision is usually the result of a good estimate.

Instructor Guide to METT-TSL

1. The commander uses the acronym METT-TSL to analyze the situation. The student briefs should cover the information contained in Change 1 to FM 7-10. The following information is provided for clarification.

   a. Mission. The task, together with its purpose, which clearly indicates the action to be taken and the reason for taking action.

      i. The mission must be carefully analyzed and understood within the context of the higher commander's intent. Specified and implied tasks are derived and assigned a relative priority.

      ii. A mission clearly conveys the *who*, *what*, *when*, *where*, and *why* of an operation. For example, at H-hour on D-day, 1/5 attacks in zone to seize Regimental Objective A in order to deny the enemy use of terrain in the vicinity of Hill 138.

   b. Enemy. During this step, the commander considers all of the enemy's capabilities, and he makes plans to counteract or neutralize those enemy capabilities that can prevent or hinder the accomplishment of the mission. What are enemy capabilities?

      i. Definition. Enemy capabilities are "those courses of action of which the enemy is physically capable, and that, if adopted, will affect accomplishment of our mission. The term 'capabilities' includes not only the general courses of action open to the enemy, such as attack, defense, or withdrawal (DRAWD), but also all the particular courses of action possible under each general course of action. Enemy capabilities are considered in the light of all known factors affecting military operations, including time, space, weather, terrain, and the strength and disposition of enemy forces." (Joint Pub 1-02)

      ii. Description. As the commander considers the enemy situation, he carefully distinguishes what he knows about the enemy from what he guesses or assumes about the enemy. He studies known dispositions, compositions, and strengths of the enemy in terms of committed, reinforcing, and supporting forces. He mentally reviews recent significant activities, and he strives to find enemy weaknesses and peculiarities that can be exploited. He attempts to "see" the enemy on the terrain. Also, the commander determines what information he, himself, lacks. The successful commander is especially careful not to make arrogant assumptions about the enemy's capabilities based on race, religion, nationality, literacy, sophistication, or sex. Time and again throughout history, military forces have suffered disastrous defeats due to overconfidence brought on by some false assumption of natural or national superiority.

iii. Application

(a) Determining the enemy commander's capabilities will become the key to any analysis of the enemy. It is not good enough to know numerous facts about the enemy unless we are capable of drawing a conclusion as to his next action. It is only through this process that we are able to outmaneuver our opponent by anticipating his every move. The knowledge of the enemy's strength, composition, weapons, combat efficiency, and intent is quickly organized and communicated through the following:

(1) Size
Activity
Location
Unit
Time
Equipment

(2) Defend
Reinforce
Attack
Withdraw
Delay

(b) Your understanding of the enemy should focus on determining his critical vulnerabilities. The acronyms SALUTE and DRAWD set the stage for analysis.

c. Terrain and Weather

i. Terrain

(1) OAKOC. The mnemonic OAKOC (observation and fields of fire, avenues of approach, key terrain, obstacles, and cover and concealment) provides the significant military aspects of the terrain.

(a) Obstacles

(1) Definition. Quite simply, an obstacle is anything, including a natural or man-made terrain feature, that stops, impedes, or diverts military movement. Obstacles may be either "existing" or "reinforcing."

(2) Description. Determination of obstacles is influenced by the mission. In the attack, the commander considers the features within his unit's zone of action. An obstacle may constitute an advantage or disadvantage. Obstacles perpendicular to the direction of attack favor the defender by slowing or canalizing the attacker. Obstacles parallel to

the direction of attack may help protect a flank of the attacking force. To develop a true appreciation for what constitutes an obstacle, commanders must first consider their mission and means of mobility.

(b) Avenues of Approach. What is an avenue of approach?

(1) Definition. An avenue of approach is "an air or ground route of attacking force of a given size leading to its objective or to key terrain in its path." (Joint Pub 1-02)

(2) Description. What do we really mean by an avenue of approach? Quite simply, an avenue of approach is a route by which a force may reach its objective. Avenues of approach are carefully considered when planning offensive operations. All other factors of key terrain, observation and fire, concealment and cover, and obstacles are considered from both friendly and enemy points of view. When planning to use an avenue of approach, the commander also considers the mission and the type and size of the unit. Generally, commanders must consider avenues of approach that are adequate for the forces operating in the area (space). The intelligence data relative to each avenue are checked against possible schemes of maneuver, both friendly and enemy. Adequate maneuver space is based on deployment patterns and means of movement. Ease of movement is considered, and it includes factors such as soil, road, and river trafficability; steepness of slopes; terrain compartments; and vegetation.

(3) Historical Example. During the Allied retreat from Burma in 1942, General Slim was faced with a difficult situation. The 2 Burma Brigade was scheduled to be relieved of its duties of holding a withdrawal route, a bridge over the Chindwin River, by the Burma Division. However, the Burma Division was delayed for 24 hours by a lack of transport and exhaustion. Since the 2 Burma Brigade was scheduled for use farther west, Slim decided not to stop its planned march. As a result, the approaches to Monywa on the west bank of the Chindwin were left without protection one night. Slim writes that "Threats were growing in many directions with competing claims on our slender resources. Forgetting the speed with which the Japanese might come up the river by boat, I chose to meet the wrong one, and we paid heavily for my mistake." Here is an instance of a river, a terrain feature that we tend to think of as an obstacle, being used very effectively as an avenue of approach. Forces could actually move faster by boat along the river than they could on foot through the jungle. Thus, as we do our terrain analysis, we must consider mission, type of force, and means of mobility. Be alert to unusual, unpredictable, and surprising avenues of approach.

(c) Key Terrain

(1) Definition. A key terrain feature is "any locality or area the seizure or retention of which affords a marked advantage to either combatant." (Joint Pub 1-02)

(2) Description. Key terrain features must be considered in formulating courses of action. The selection of key terrain is based on the mission of the command. Terrain that permits or denies maneuver may be key terrain. Tactical use of terrain often is directed at increasing the ability to apply combat power and, at the same time, forcing the enemy into areas that reduce his combat power. Terrain that permits this may also be key terrain. Considerations in selecting key terrain are the effect of terrain on fire and maneuver, application of combat power, and preservation of force integrity. A terrain feature may afford a marked advantage in one set of circumstances but little or no advantage under other conditions. The selection of key terrain varies with the level of command, the type of unit, and the mission of the unit. Further, combat service support and aviation units may occupy key terrain. Combat service support units need roads over which to move supplies and secure areas in which to establish facilities. Aviation units need high terrain on which to set up radars and communication facilities and large flat areas for airfields.

(d) Observation and Fields of Fire. Observation and fields of fire are not synonymous but are so closely related that they are considered together. Fields of fire are based on observation because a target must be seen to bring effective fire upon it.

(1) Definitions

a Observation. Observation is the area over which surveillance can be exercised either visually or through the use of surveillance devices, both optical and electronic. (OH 0-3)

b Fields of Fire. A field of fire is "the area a weapon or group of weapons may cover effectively with fire from a given position." (Joint Pub 1-02)

(2) Description. Observation varies with weather conditions, the time of day, vegetation, friendly and enemy smoke, and surrounding terrain. Observation generally is best from the highest terrain features. However, during times of poor visibility, positions in low areas that the enemy must pass through may provide better observation than

high points from which nothing can be seen. Fields of fire for direct-fire weapons such as machine guns and automatic rifles may be affected by terrain conditions between the weapon and the target. The leader identifies those terrain features within the area of operations and those adjacent to the area of operations that afford the friendly or enemy force favorable observation and fire.

(e) Cover and Concealment. Concealment and cover are protection from observation and fire.

(1) Definitions

a Concealment. Specifically, concealment is "the protection from observation or surveillance." (Joint Pub 1-02)

b Cover. Cover is protection from the effects of fire. (OH 0-3)

(2) Description. What constitutes good concealment? Concealment may be provided by woods, underbrush, snowdrifts, tall grasses, cultivated vegetation, or by any other feature that denies observation. It may also be provided by weather conditions, such as fog and rain, and by darkness. Concealment from ground observation does not necessarily provide concealment from air observation or from electronic or infrared detection devices. Terrain that provides concealment may or may not provide cover. Cover is protection from the effects of fire. Cover may be provided by rocks, ditches, quarries, caves, river banks, folds in the ground, shell craters, buildings, walls, railroad embankments and cuts, sunken roads, and highway fills. Areas that provide cover from direct fires may or may not protect against the effects of indirect fire. Most terrain features that offer cover also afford concealment from ground observation.

(2) Before proceeding to the next element in the estimate of the situation, we should emphasize that although we have analyzed the military aspects of terrain and weather separately, terrain and weather are, in fact, inseparable. Terrain that offers good trafficability when it is dry may be impassable when it is wet. A hill that offers good observation on a clear day may not provide any visibility on a rainy day or at night.

(a) Weather

(1) Definition. Weather is the state of the atmosphere at a given time and place. Weather comprises atmospheric pressure, winds, humidity, clouds and fog, precipitation, and fronts or zones where air masses of different temperatures meet.

(2) Description. What does weather mean to a military force? Consider this quote from General Eisenhower's book, *Crusade in Europe*: "Some soldier once said, 'The weather is always neutral.' Nothing could be more untrue. Bad weather is obviously the enemy of the side that seeks to launch projects requiring good weather, or of the side possessing great assets, such as strong air forces, which depend upon good weather for effective operations." General Eisenhower meant that a certain type of weather in and of itself is not always good or bad. Whether or not the weather is good for an operation depends on the requirements of a specific operation conducted in response to a specific situation. Rommel needed and waited for a rainy night to conduct his raid against Pine Tree Knob. General Slim pushed his men and equipment to unbelievable limits in order to capture Rangoon before it rained. The key point is that what we Americans traditionally refer to as "bad weather" can be a great ally.

d. Troops and Fire Support Available (Combat Power). When a commander considers troops and fire support available, he is developing his assessment of his combat power.

i. Definition. Joint Pub 1-02 defines combat power as "the total means of destructive and/or disruptive force which a military unit/formation can apply against the opponent at a given time."

ii. Descriptions. Emphasize some key points. First, combat power is *always* relative. It is not absolute. In this respect, combat power is much like maneuver in that its value has meaning only when considered in relation to that of the enemy. Second, combat power is composed of intangible as well as tangible factors. We must avoid the tendency to equate combat power with "bean counting" or "number crunching." For example, recall the old three-to-one advantage that the attacker should have to the defender: If the enemy has 200 men defending a position, we must have at least 600 to seize that position. Such reasoning fails to consider all other intangible and tangible factors that can affect the outcome of operations. As General Robert H. Barrow said, "Success in battle is not a function of how many show up, but who they are." Use of imagination to generate superior combat power and aggressiveness in employing it are factors that are difficult to measure but make a large difference in who wins and who loses.

e. Time

i. Definition. No definition. Time is the commander's most important resource.

ii. Description. What then do we mean by "time available"? Perhaps the best and clearest comment concerning the role of time in the offense is Clausewitz's injunction that "Time not used by the attacker benefits the defender." Time is closely tied to the concepts of momentum and culminating point. If the attacker is to succeed, he must constantly concentrate to imaginatively and aggressively get the most from each moment. Time is closely linked to space.

iii. Application

(1) Plan your use of time through the use of the "half-rule" or the "one-third, two-thirds rule." For example, half of the available time goes to the commander and half goes to the subordinate units.

(2) Backward Planning. Start with the last known action and progress backwards to present time. Start with the time for the crossing of the line of departure for offensive battle or from the time the defense must be established.

(3) Make a time plan. The goal is to give the subordinate unit enough daylight to conduct planning, reconnaissance, and preparation prior to the start of combat operations. It does more harm than good to present a perfect plan to subordinate units if they do not have the time to disseminate their own orders and prepare.

f. Space. The commander must also consider the distance he must move in the required time. This is why time and space are considered in conjunction with each other.

i. The commander should compute how much time he will need to move certain distances, or how far from his objective he must begin to change formations, in order to commence the assault.

ii. Space should also be computed with regards to specific conditions, including weather and the enemy situation at hand. The commander must anticipate friction, such as obstacles or harassing fire from the enemy, that may slow down friendly units.

g. Logistics.

i. Definition. Joint Pub 1-02 defines logistics as "the science of planning and carrying out the movement and maintenance of forces."

ii. Description. The best description of the role logistics plays in the commander's estimate comes from General Archibald Wavell: "The more I see of war, the more I realize how it all depends on administration and transportation…. It takes little skill or

imagination to see where you would like your army to be and when; it takes much knowledge and hard work to know where you can place your forces and whether you can maintain them there." A real knowledge of supply and movement factors must be the basis of every leader's plan. Only by understanding logistics can the commander know how and when to take risks—and battles are won only by taking risks. The key point in General Wavell's quotation is that "it takes much knowledge and hard work to know where you can place your forces and whether you can maintain them there."

iii. Historical Examples. Consider two cases in which "much knowledge and hard work" were expended to determine if a plan of attack were supportable:

(1) Allied Attack Across Europe in 1944. In his book, *Supplying War*, Martin van Creveld devotes an entire chapter, "War of the Accountants," to the Allied attack across Europe. Van Creveld contends that the Allies in the best businessman tradition carefully calculated that the Allies would not be able to reach the Seine until D+90, 4 September, or the German border until 1 June 1945. The logisticians continually counselled the tacticians that an accelerated drive across France could not be sustained. Fortunately, Patton formed his own estimate, and very aggressively led his 3d Army across France. It reached the Seine on 19 August instead of the 4 September date that the logisticians claimed would be the earliest that the Seine could be reached. Further, "Lightning Joe" Collins' 7th Corps of Hodges' 1st Army reached the German border on 12 September 1944, which was significantly better than the June 1945 date calculated by the logisticians.

What was the accountants' response to reports of the Allied advances? These same logisticians continued to insist that what Patton and Hodges were doing was impossible, that they really weren't there yet! Van Creveld considered the pessimistic calculations and advance to slow the advance to be "an exercise in logistic pusillanimity unparalleled in modern military history." What is the point in recounting this historical example? Are we implying that tacticians should ignore the advice of logisticians? No. One reason for this example is that we want to emphasize that commanders are responsible for forming their own estimate. While the technical advice of staff officers is important and must be considered, the commander must form his own estimate of the situation—an appreciation of the situation that considers both the art and the science of war. A second reason for this example is that logisticians, and all staff officers, must guard against the tendency to overestimate what is required in order that they may never be found short or wanting. Such deliberate over-estimates fall in the arena of moral cowardice. If, as Clausewitz wrote, war is the arena of chance, then staff officers owe their commanders reasonable chances, not business-like guarantees. And, they owe their commanders a careful assessment of "the risks involved in their calculations" (Wavell) so their commanders can know how and when to take the risks that win battles.

(2) Slim's Attack Across Burma in 1945. Let's turn now to a commander and his staff who did make the careful assessments and took the calculated risks to win decisive battles. General Slim's Fourteenth Army in Burma was known as "The Forgotten Army." Of all the Allied theaters, his army operated in the one that rated the lowest priority. Certainly, it operated on one of the most complex, tenuous, and long supply lines in modern history. To make matters worse, Slim's army fought over some of the most rugged jungle and in one of the worst climates on the planet. His supporting infrastructure was rickety, to say the least. His description of the best part of his support system: "From the Indian side, the fighting areas could be reached—but only circuitously—by railway and river; there were no through roads. From Calcutta the broad-gauge railway, for about half of the distance a single track, ran for 235 miles to Parbatipur. Here, hordes of coolies unloaded the wagons and noisily transferred the contents to the ramshackle metre-gauge train that, if all had gone well, would be waiting. This then wandered up the Brahmaputra Valley to the ferry at Pandu, 450 miles from Calcutta. The coaches and wagons were uncoupled and pushed, with much clanking and banging, onto barges. A slow river crossing and the laborious process was repeated in reverse on the opposite bank. Over at last and reassembled, the train rattled monotonously on to Dimapur, the terminus for the Central front, over 600 miles from Calcutta. If bound for the Northern front, it continued its journey, even more slowly, to Ledo, more than 800 miles from Calcutta."

To support his advance across Burma, Slim's supplies then had to move by an incredible combination of truck, donkey, barge, and man. Yet, his army achieved brilliant victories. How? He and his staff devoted considerable effort and imagination to the logistic support of their attacks. His assessment of their success and his advice for future commanders was "We discovered that, instead of the four hundred tons a day not considered excessive to keep a division fighting in more generous theaters, we could maintain our Indian divisions in action for long periods, without loss of battle efficiency or morale, on one hundred and twenty. As we moved vehicles from units and formations which joined us on European establishments, they found to their surprise that they could move farther and faster without them. The fewer vehicles on the road or tracks, the quicker they travelled, and an enforced ingenuity in combining ferrying by lorry with marching covered long distances in remarkably short time. This relation between tactical mobility and numbers of vehicles, between the size of staffs and effective control, will increase in importance in any future war. Unless they are constantly watched and ruthlessly cut down, vehicles and staffs will multiply until they bog down movement."

Slim's assessment is supported by Van Creveld's contention that even in the best of circumstances (his example is the Israeli advance across the Sinai in 1967) large formations are unable to move more than forty miles per day. The key point Slim makes is that at some point increases in logistic support become counterproductive. Such increases actually decrease a force's combat power because more support is

provided to support the supporting elements than the fighting forces. The challenge to all of us is to find, as General Slim and his staff found, that optimal balance between logistic and combat elements. The key point here is not to become obsessed with some artificial tooth-to-tail ratio. Each situation is different and requires a different tooth-to-tail ratio. Who really cares what that ratio is? As Van Creveld so aptly points out, "The aim of a military organization is not to make do with the smallest number of supporting troops but to produce the greatest possible fighting power." Slim did just that. His focus was on combat power, and, as a result, he chose during his campaign across Burma to fight with fewer divisions adequately supported rather than more divisions undersupported. The result was a decisive victory that was attained just before his culminating point was reached. In each specific situation, each of us must strive to find that optimum balance. As Wavell stressed, such an understanding of the situation will require much hard work and a great deal of technical knowledge, but the results, decisive victories, will be well worth the effort. Before leaving this subject, some may think that the estimate process is worthwhile for generals to consider but has little applicability to captains. Think again. Marines can fight without anything but water. Read the after-action reports of the combined arms exercises and lessons learned from Southwest Asia and see how many company operations came to a halt; one of the most frequent reasons for such a loss in fighting power was the lack of an effective water distribution plan within the company. Once again, we should stress that the hard work and technical knowledge devoted to understanding this element of the situation will enable commanders at all levels to win decisive victories rather than small, costly ones.

Take a break and then proceed with Requirement 2, The Practical Exercise.

METT-TSL BRIEFING EXAMPLE

To simplify the briefing format for the conference group METT-TSL briefs (initially), we will use the following format. Instructors should brief what is applicable and add where deemed necessary.

Mission:
- Task and purpose
- Any other factors students deem necessary
- So what?

Enemy:
- SALUTE (disposition/composition)
- DRAW-D (capabilities)
- MLCOA (What will the enemy likely do?)
- So what?

Terrain and Wx:
- OAKOC-Wx (specifics: Hill 782 is key terrain because…, etc.)
- How will terrain and weather impact you and the enemy?
- So what?

Troops and Fire Support Available:
- How much do I have?
- What else do I need?
- Intangible factors
- So what?

Time:
- Time available for planning
- Time with relation to the enemy
- So what?

Space:
- Battlespace
- Relation to time
- So what?

Logistics:
- What is available?
- Supportability
- So what?

THE ESTIMATE PROCESS

Requirement 2

Practical Exercise

1. This PE is designed to give students a framework with which to work through the elements of METT-TSL in order to produce an estimate of the situation. The PE is very basic and is not meant to be a complete battalion level OPORD. Focus on METT-TSL.

2. Their work was an individual effort; however, the students can now compare their estimates as a group. Have two or three students read their estimates and discuss what they came up with. Emphasize the "so what" part of the student estimates.

3. As an example of terrain, students might mention that there are trees. They should also describe the trees (e.g., deciduous, evergreen), note the density of the trees or forest in this area, and state whether they/it will limit vehicle or tracks movement to roads and open fields. When all student estimates are combined, it should be very apparent that a wealth of information can be gleaned from a quick estimate of the situation.

4. Below are some elements of METT-TSL from the PE to help facilitate class discussion:

HOPEWELL GAP METT-TSL

Mission

1. Two levels up: 6th Marines attacks in zone at H-hour to seize and defend Regimental Objective A (Aldie Gap TU703175) and Regimental Objective B (Hopewell Gap TU655050) in order to prevent the enemy from gaining access to the division's lines of communication.

2. One level up: 2nd Battalion, 6th Marines, attacks in zone at 120500 AUG XX (H-hour) to seize Regimental Objective B in order to prevent the enemy from using Hopewell Gap as an avenue of approach to interfere with the regiment's lines of communication.

3. Commander's intent:

    a. Enemy CV: Lack of supporting arms from higher headquarters and mutual support from other enemy units in the Hopewell Gap area.

    b. Enemy COG: Strong defensive position located on the high ground east of Hopewell Gap.

    c. Plan to exploit the CV, isolating the enemy platoons from one another and preventing reinforcement from the enemy brigade. We will accomplish this task by conducting a sequential attack on Regimental Objective B supported by E/2/10. This attack will deny the enemy the Hopewell Gap avenue of approach.

    d. Endstate: Regimental Objective B is seized, defensive positions are established, and the enemy is prevented from using Hopewell Gap as an avenue of approach.

4. Specified Tasks:

    a. Seize Battalion Objective 2 and Battalion Objective 3 in order to prevent the enemy from using Hopewell Gap as an avenue of approach to interfere with the Regiments LOC.

    b. Establish defensive positions in the vicinity of TU648048 oriented southwest in order to prevent the enemy from using Hopewell Gap.

    c. Report crossing of all phase lines and the LD.

    d. Companies provide guards for EPWs back to the battalion collection point.

5. Implied Tasks:

   a. Coordinate with Company G for support by fire.

   b. Coordinate with Company E for reinforcement, if committed.

6. Limitations (Constraints + Restraints = Limitations):

   a. Use of civilian labor is not authorized.

   b. Minimum collateral damage in the town of Hopewell. Only PGMs are authorized within 500 meters of buildings.

7. Essential Task: Seize Battalion Objective 2 and Battalion Objective 3.

8. Company Mission: At H+30 minutes, Company F attacks along Axis Red to seize Battalion Objective 2 and Battalion Objective 3 in order to prevent the enemy from using Hopewell Gap as an avenue of approach to interfere with the regiment's LOC.

Enemy

Size: Motorized infantry platoon-sized unit Battalion Objective 1
Motorized infantry platoon-sized unit Battalion Objective 3
Combat Security Outpost (CSOP) in the vicinity of Battalion Objective 2
Enemy brigade has withdrawn west across Mill Run River.

Activity: Established in strong defensive positions.
CSOP in position to provide early warning. Trade space for time. Local patrols established.

Location: Vicinity of Hopewell Gap TU655050
Battalion Objective 1, Vic TU658055
Battalion Objective 2, Vic TU669045
Battalion Objective 3, Vic TU657045
Battalion Objective 4, Vic TU645047
AA Dog, Vic TU701043

Unit: Motorized infantry, designation unknown

Time: 101300 AUG XX

Equip: Small arms
2 x 82mm mortars
3 x 14.5mm machine guns

Defend: In position, but will withdraw under pressure

Rein: Platoons are mutually supporting, and the enemy could reinforce from the west side of Mill Run River.

Attack: Not likely with platoons, but possible with the brigade within 48 hours.

Withdraw: Only under direct pressure, must be threatened with being overrun.

Delay: Will delay to support the brigade's movement.

MLCOA: Enemy fights a delaying action to buy time for En Brigade attack.
MDCOA: Enemy is able to reinforce with armor sooner than 48 hours.

Terrain and Weather

Obstacles: Built-up areas, streams and rivers, forested area. Off-road mobility for wheeled and tracked vehicles is fair in open farmland but restricted to roads with steep embankments; vehicle movement is restricted in forested areas; streams are fordable.

Impact: The enemy has the advantage due to his defensive/delaying posture. The enemy will reinforce natural obstacles with mines and wire, canalize our movement, and draw forces into his fire sacks.

Avenues of Approach: Avenues of approach support battalion (Rt 601)

Impact: Route allows good mobility for both friendly and enemy forces.

Key Terrain: Bull Run Mountains (Hopewell Gap); major route (Rt 601); stream (Catharpin Creek)

Impact: Control of intermediate key terrain, major routes, and fordability of Catharpin Creek will facilitate our attack. Conversely, the enemy will control key terrain to delay our attack.

Observation of Fields of Fire: Maximum effective range of crew serve weapons will be hard to achieve due to vegetation. Much of the area is heavily wooded. Best observation may come from high ground along Bull Run Mountains.

Impact: Friendly and enemy-directed fires are focused on avenues of approach and open areas. Observation of indirect fires will be difficult.

Cover and Concealment: The enemy is in prepared defense affording good cover. Heavy vegetation provides excellent concealment. Multiple intervisibility lines in the AO may also conceal movement.

Impact: Advantageous for the attacking unit. RS&C will help locate enemy positions. The attacking force must maximize concealed avenues of approach to help achieve surprise and close with enemy force. The enemy's advantage of cover can be mitigated by the use of effective combined arms.

Weather: Hot and humid. Effects on troops and need for water resupply. The forecast is clear; however, it has been raining heavily during the past 48 hours. Rain has made trafficability off road poor for vehicles.

Troops and Fire Support Available:

3 infantry platoons
1 weapons platoon
Forward air controller (FAC)
81mm forward observer (FO)
Artillery FO

There is a 3-to-1 advantage for friendly forces. The friendly forces have a morale and training advantage. Direct-fire weapon ranges are reduced due to vegetation, therefore; these weapons are most effective in open areas. The enemy has only two 82mm mortar tubes. Between battalion 81mm mortars, company organic indirect weapons, and E/2/10, we have an advantage.

Impact: We have priority of fires after crossing the LD. Battalion mortars and E/2/10 can range to Battalion Objective 2.

Time

Time Now: 101300
H-hour: 110500
Avenue of approach (AA) to line of departure (LD): 1.5 km
LD to objective: 3 km
Time from AA to LD: 45 minutes
Time from LD to AP: along Axis Blue, approximately 2km, 3 hours (night), 2 hours (day)

Impact: There is adequate time for planning and rehearsal. The assault will take place during daylight hours. The enemy should be at full alert. The sun will be at our backs.

Space: There is sufficient time to cover space from the LD to the objective. The attack will occur in the early morning. Battalion assets can close quickly using Rt 601 after it is clear.

Impact: Our mobility, using concealed avenues of approach, will help us to surprise and shock the enemy. This maneuver, integrated with the judicious use of supporting arms, will overwhelm the enemy and allow decisive action.

Logistics: Water resupply. MEDEVAC plan. Ammo resupply. Class IV for defensive operations. Expect resupply upon consolidation.